Claims Objections

Claims 1-7 and claims 9, 11 and 17 have been cancelled. All the remaining claims have been amended with respect to the examiner's instructions. They have been amended to be of one sentence in length, to begin with a capital letter, and to end with a period. They have also been amended to clarify unclear phrases noted by the examiner.

Claim Rejections – 35 USC § 112

Claims 1-7 and claims 9, 11 and 17 have been cancelled. All the remaining claims have been amended to distinctly point out the subject matter claimed. Phrases including "such as" and "and/or" have been removed from the remaining claims. Claim 19 has been amended with respect to improper usage of language such as "provided there is".

Claim Rejections – 35 USC § 102

Claims 1-5, 7 and 9 have been cancelled.

Claim Rejections – 35 USC § 103

Claims 6, 11and 17 have been cancelled. Claim 10 has been amended to include the subject matter of claim 11.

The assignee respectfully disagrees with the examiner's argument that claim 10, especially as now constituted, would have been obvious to one skilled in the art. Walner nowhere mentions an embodiment of his invention whereby perforations are applied to a pattern sheet, which is already mounted to a piece of fabric. Without a means to create perforations of a precisely controlled depth, such as to avoid damage to the attached fabric, such an embodiment would be counter-intuitive to one skilled in the art. The operation of creating perforations on an already mounted assembly, is not therefore an obvious process improvement. The true benefit of doing so is to gain flexibility in the manufacturing process by permitting the mounting operation to be independent of the perforation operation, and using pre-mounted fabric panels. Such pre-mounted panels could be prepared on a separate manufacturing line, or could be purchased from vendors such as Roland Inkjet Media which is referenced in the disclosure statements.

The assignee further respectfully disagrees with the examiner's statement that "Walner teaches a tool for cutting perforations of controlled depth into the mounting means". Walner recommends using a laser for the following reasons (Col 5 line 64): "In a preferred embodiment, a laser cutting machine is used to cut perforations . Up to ten flexible sheets are stacked together and placed in the laser cutting machine. The laser burns each perforation through the entire stack, providing a sharp, clean-edged cut." Industrial laser cutting machines are not capable of making cuts of precise depth into one

fragile or low density material which is very closely mated with another fragile or low density material, without the near-certainty of damage to the mounted material. In fact Walner clearly recognizes the laser cutting machine will not make cuts of controlled depth, but rather will cut through several sheets at one pass of the laser beam. Walner is not here teaching a method of cutting to a controlled depth, but rather he is teaching the opposite.

The assignee further respectfully disagrees with the examiner's statement that Walner discloses using a two-edged knife as a means of cutting to a controlled depth. Such an operation would require enormous expense of time per piece, and would require very highly skilled operators. The topic of the assignee's invention is the assembly of fragile low density materials, such as can be very easily damaged by the slightest knick of a two edged knife. As such the necessary wastage resulting from the operation of cutting controlled depth perforations with a two edged knife would be prohibitive. For these reasons the use of a two edge knife to cut precision-depth perforations would not have been obvious to one skilled in the art of fabric assembly, and in fact would have been counter-intuitive.

Claim 12 has been modified to conform to the requirements for proper form and clarity. The assignee respectfully disagrees that Walner teaches the subject matter of claim 12. Walner nowhere teaches the integration of the perforation and fabric joining operations, such as to allow producing the desired perforations in synchronization with the joining operation. The benefit here is to enable producing perforations, suitable to whatever pattern is being sewn, and using a pre-mounted fabric panel. Further, since performing the perforation operation after the mounting operation would not have been obvious to one skilled in the art, it would clearly not have been obvious to integrate such an operation with the joining operation.

The assignee respectively submits that claim 10, claims 12-16, and claims 18 and 20 are not obvious to one skilled in the art, and that they should be allowed.

Allowable Subject Matter

Claims 8 and 19 have been rewritten per the examiner's instructions, and the assignee respectfully submits they can now be allowed.

place. Then the stencil is removed, and the details of the artwork are sewn in by eye alone.

Other types of sewing aids are available to facilitate attachment of highly detailed artwork or embellishments to a fabric item. Patents 4,788,922, 3,463,692, and 1,171,154 concern aids or processes which allow transferring of embroidery-like designs to a fabric item. The design is actually embroidered on a substrate. This substrate is composed of a cellulose layer which will degrade upon application of sufficient heat. The substrate also has a heat-activated adhesive layer. The principle behind these processes is that the "embroidery" is positioned on the fabric item. Then sufficient heat is applied to simultaneously activate the adhesive layer and to decompose the cellulose layer. These processes don't facilitate the actual embroidery process. Instead they produce an inferior finished item which features "pasted on" artwork, rather than true embroidery artwork. The temperatures required to in the heating process are high enough to damage many fabrics. Further, the exposure to the fibrous dust from the decomposed cellulose layer could be dangerous for humans to breathe, and would at the least be a messy process. Finally the production of the artwork itself requires highly specialized and thus relatively expensive materials for the substrate.

Other processes have been developed to facilitate decoration of fabrics. These processes concern mounting of fabric panels on a stiff backing material such as paper. The fabric is mounted using a repositionable adhesive. The stiff backing facilitates automated printing of designs or indicia on the fabric. Patents US6,651,642B2, 5,922,625, and 5,515,093 describe such processes. However

purposely exaggerated in the blowup. A section of mounting means 3 is shown being torn at perforation 7, and lifted from fabric panel 1. Due to the perforations the mounting means will not be sewn to the surface of the fabric, and can be pulled up around the sewn seam 9. Sewing is only a typical assembly means utilized in the invented process, and this process is fully applicable to other types of assembly means, for example a stapling operation, or perhaps a fusing of fusible materials. In this embodiment perforated line 7 serves as a guide for sewing the seam 9, and will later serve as a guide or pattern for trimming the piece. Threads ~~11~~201 are a typical artifact of a sewing machine operation.

DETAILED DESCRIPTION - FIG 2A TO FIG 2I--PREFERRED BASIC EMBODIMENT

FIG. 2A shows a mounting means 3, in this example a sheet of paper, which has a repositionable adhesive on the back side. This mounting means in this example has a disposable backing, which is not visible in this view, in order to aid in handling of the mounting means. This configuration is only typical of the process.
The mounting means could enter this process in a variety of manners. As an example this could be a continuous process where the mounting means comes off a roll and adhesive is applied and dried as the mounting means is unrolled.
Perforated line 7 is shown, which will serve as a guide for an assembly operation. Line 7 is depicted as already layed down on mounting means 3. Production of line 7 could also be otherwise produced, such as within a continuous process using a multi-bladed perforating tool or roller. Finally registration holes 11 are shown as

typical means to later position a mounted fabric panel for assembly, such as with a mating assembly.

FIG. 2B shows the mounting means 3 being pulled away from its removable backing 13.

FIG. 2C shows mounting means 3 being positioned and adhered to a fabric panel 1. As above this is only a typical manner of mating a mounting means to a sheet-like panel. For example this operation could also be part of a continuous operation such as that mentioned in the discussion of FIG. 2A, where the fabric could be continuously pulled from a roll, and cut to size as needed.

FIG. 2D shows two mounted fabric panel assemblies, now referenced as 15 being registered to each other with aid of registration holes 11, and dowel pins 17. This is only a typical means of registering such assemblies, and the same results could be achieved in numerous ways, one example of which might be a some kind of fixture to align the edges of the assemblies.

FIG. 2E shows the assemblies joined together with staples 19, the full assembly now referenced as 16. 16 is being presented to sewing machine 21. Note how the assembly 16 could have been readily produced using totally automated operations. Also note that the rigidity and compactness of 16 can now serve as an aid in manual or automatic presentation to sewing machine 21.

FIG. 2F shows assembly 16 after the typical sewing operation. Seam 23 now joins the two fabric panels mounted within assembly 16. Hanging threads ~~11~~201 are typical artifacts of the sewing operation. A section of mounting means 3 is shown being lifted and torn along perforated line 7, which is obscured by seam 23. Torn